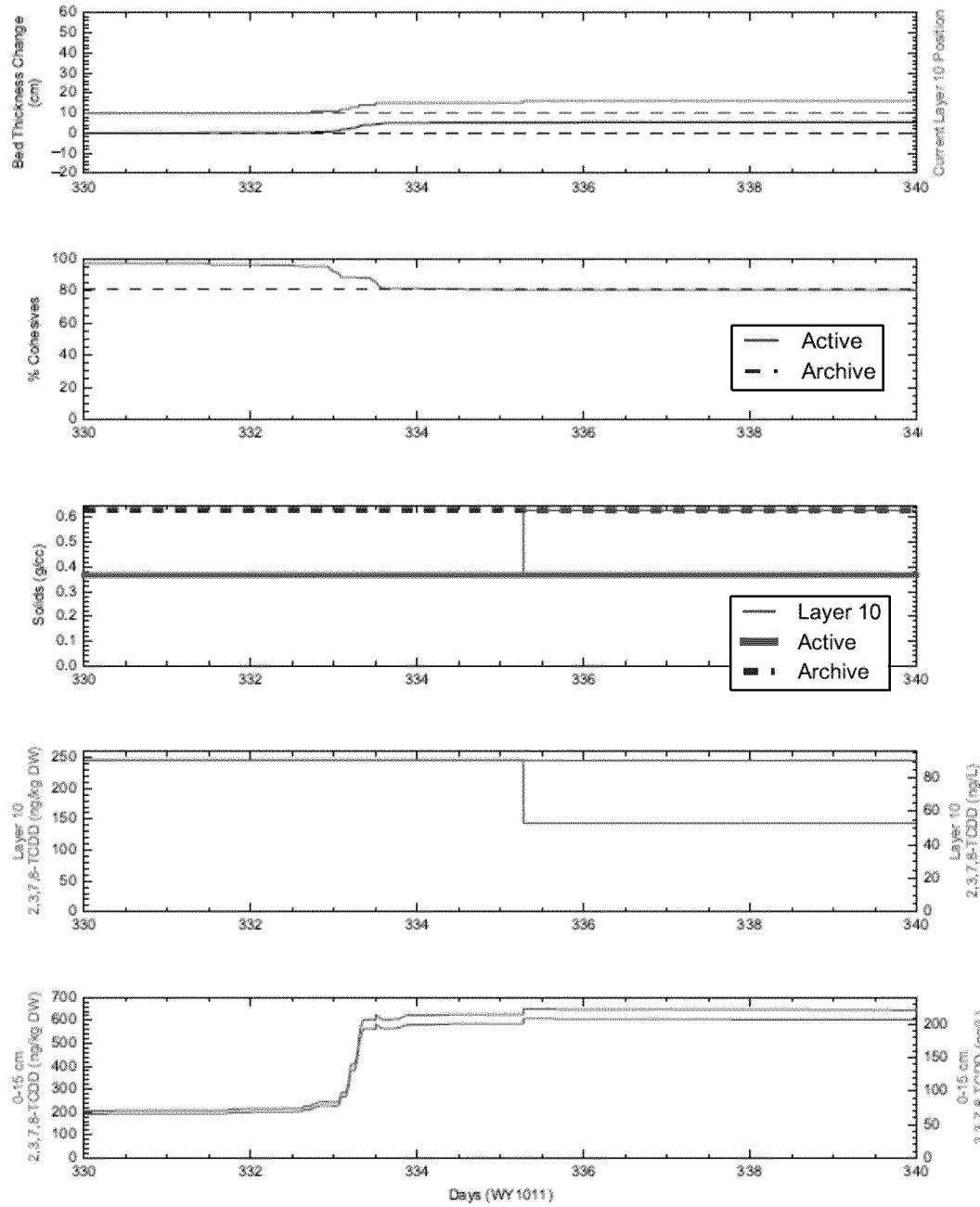


# Example 1 – Cell (18,99) CPG Approach



RCHEM = Dry-Weight Conc

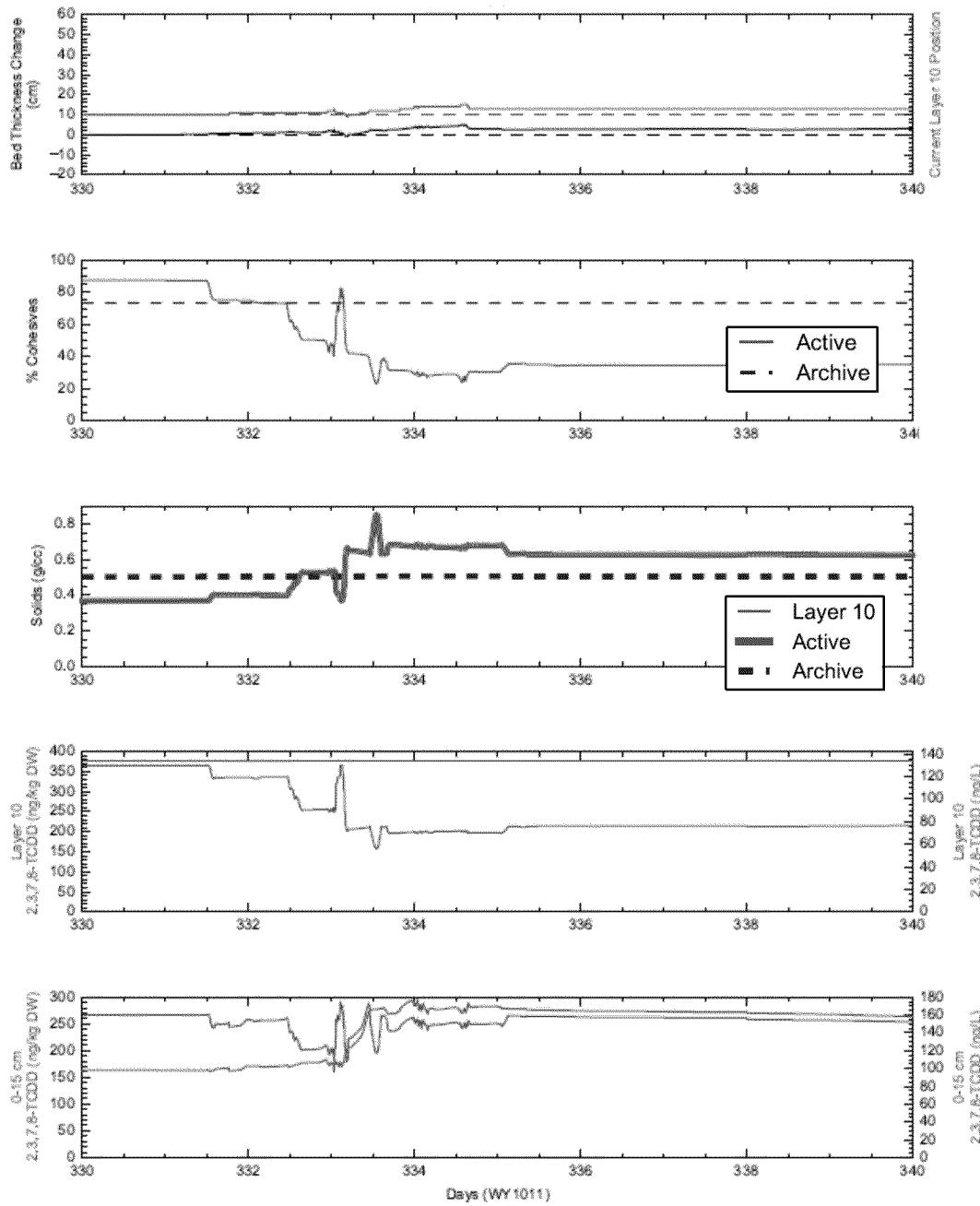
CPCHM = Volumetric Conc

- The change in Layer 10 RCHEM reflects the discontinuity of bulk densities between the active and archive layers
- Deposition resulted in an increase of CPCHM in the active layer by 3X over time
- RCHEM also increases by 3X over time

## Conclusions

- Layer 10 BD discontinuity is an AOC framework issue
- This issue has no impact to the 15-cm predictions

# Example 2 – Cell (16,98) CPG Approach

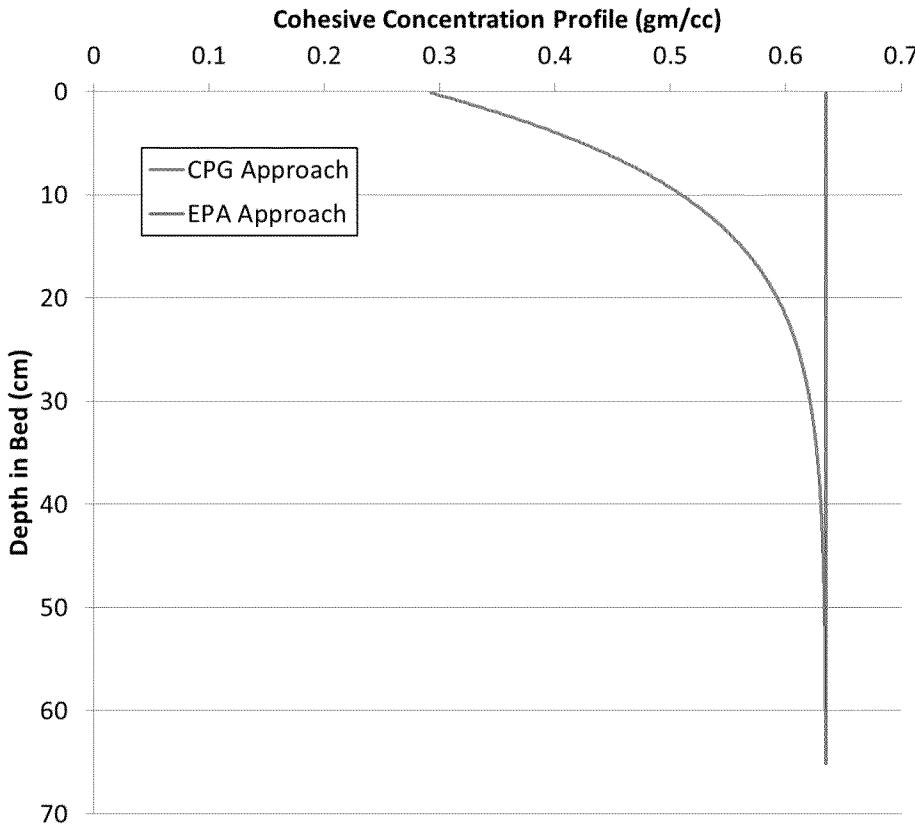


- The change in Layer 10 RCHEM reflects the composition change in the active layer (top 15 cm)
- Deposition resulted in an increase of CPCHM in the active layer
- Active layer RCHEM remains similar, suggesting depositing solids have a similar level of contaminants as the sediments
  - Higher conc on cohesives, but offset by the increase of non-cohesives

## Conclusions

- BD vs. CPCHM in Layer 10 is an AOC framework issue
- This issue has no impact to the 15-cm predictions

# Assumptions in Cohesive Solids Vertical Profile

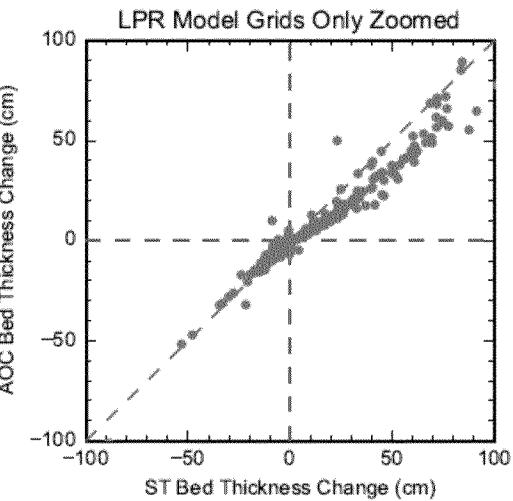


- **EPA:** cohesive solids are fully consolidated at all depths
- **CPG:** cohesive solids are instantaneously consolidated with depth variable density

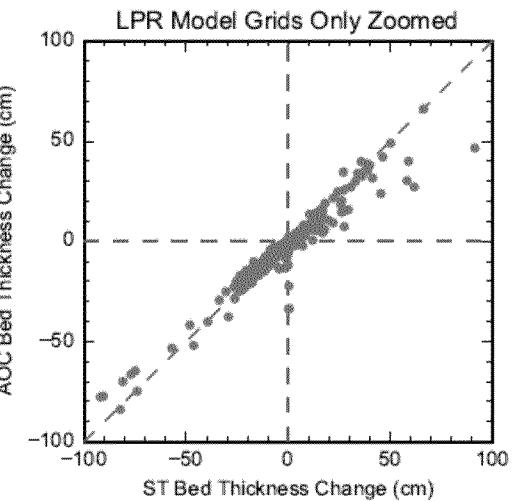
# OC Model vs ST Model Bed Elevation Changes

WY 9596-  
1011

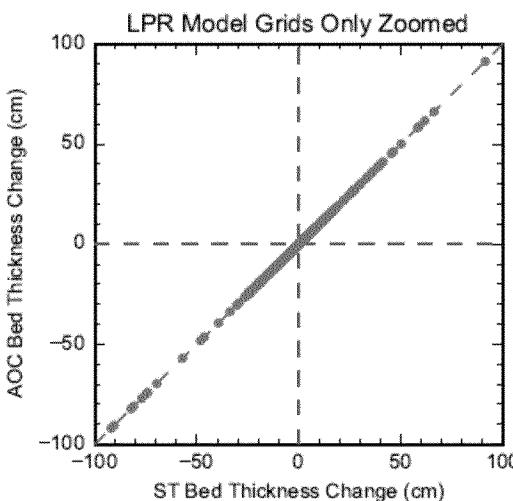
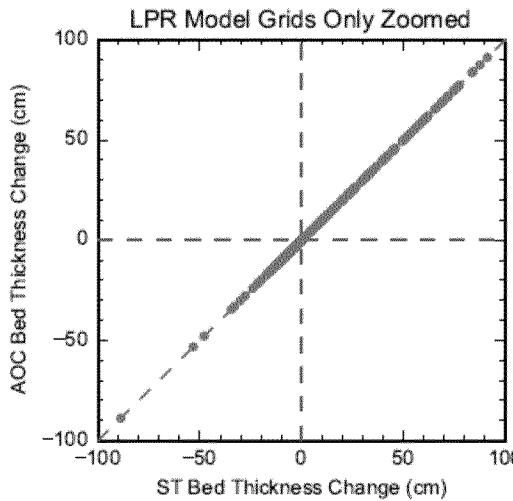
EPA Approach



WY 1011-  
1213

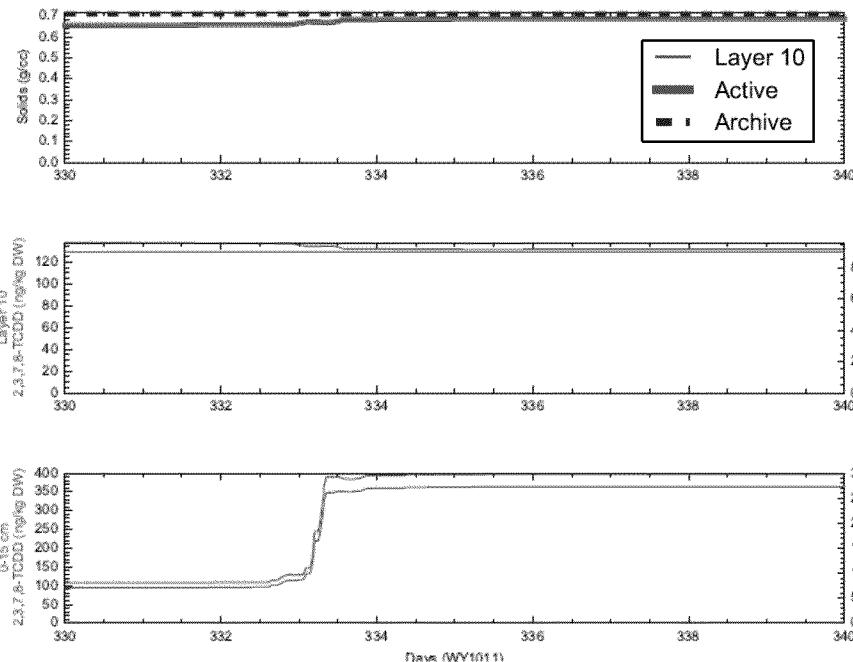


CPG Approach

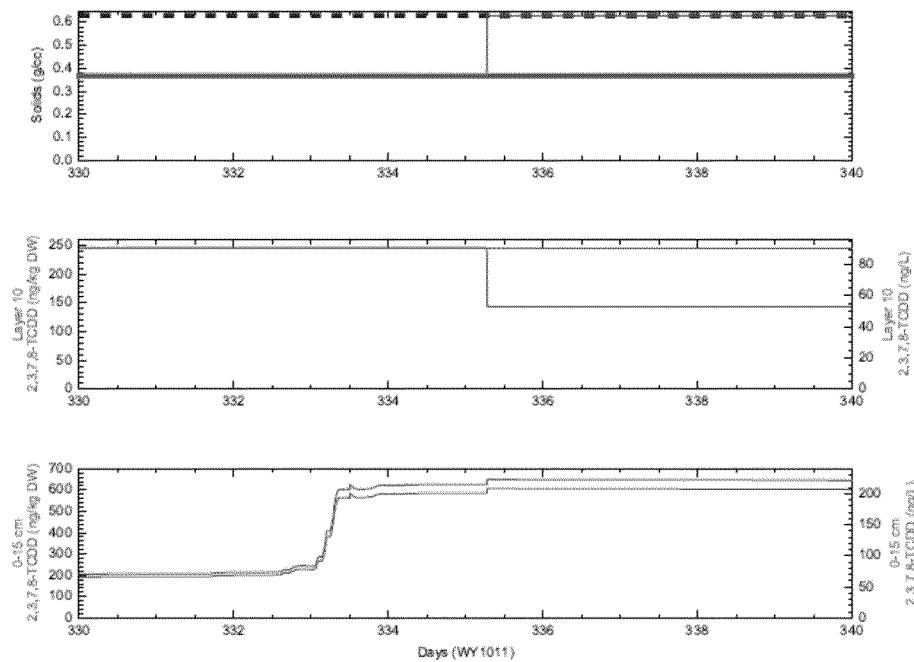


# Example 1 – EPA vs. CPG Approaches

EPA Approach



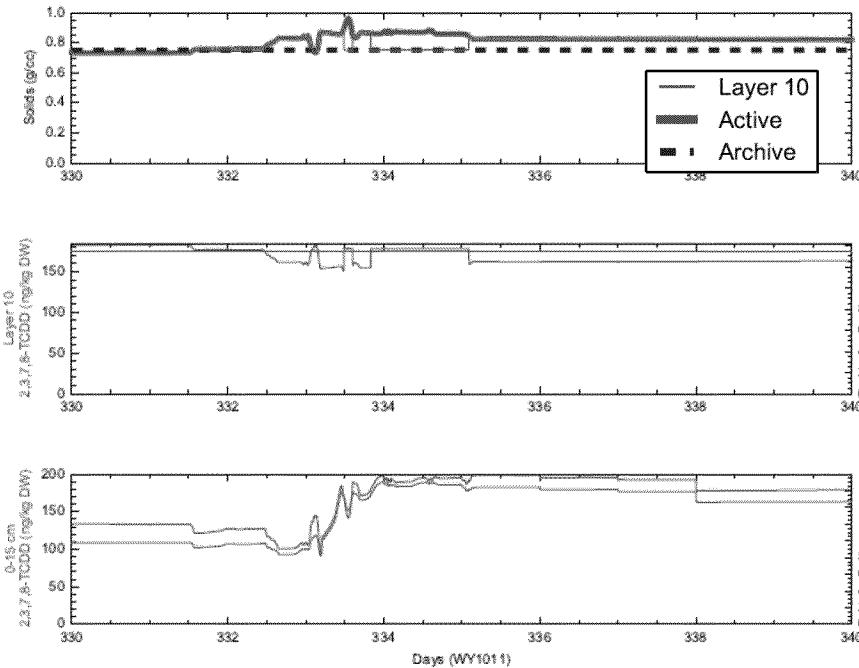
CPG Approach



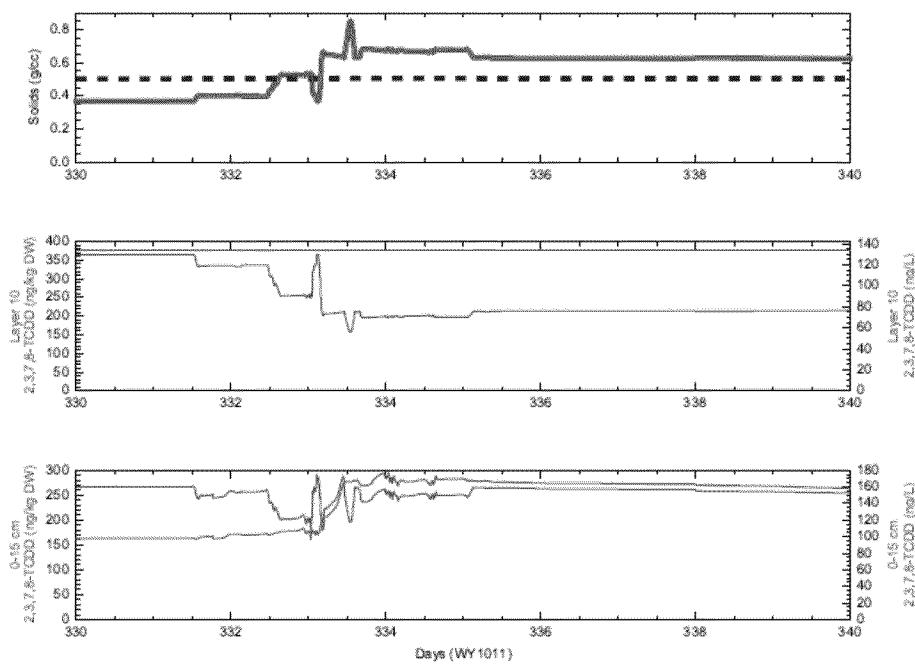
- EPA's Layer 10 remains within the active layer and exhibits no discontinuity in RCHEM
- Similar 15-cm RCHEM from both approaches
- EPA approach yields less bed thickness change

# Example 2 – EPA vs. CPG Approaches

EPA Approach



CPG Approach



- The layer 10 RCHEM in the EPA and CPG approaches reflects the composition change from the surface fluxes

# Comparison of CPG and EPA approaches

- CPG approach
  - Pros:
    - More realistic representation of surface bulk density
    - Preserves ST bed elevation change
  - Cons:
    - Greater bulk density discontinuity between the active and archive layer (but little impact to the CFT predictions)
    - Consolidation/swelling effects (but unclear relevance to quantities of interest)
- EPA approach
  - Pros:
    - Less bulk density discontinuity
    - Not subject to consolidation/swelling
    - Mathematical convenience
  - Cons:
    - Fully consolidated cohesive density is less realistic near surface
    - Underestimates ST deposition rates